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eldap

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**January 17 2019**

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# 1 Eldap User's Guide

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The *Eldap* application provides an api for accessing an LDAP server.

The original code was developed by Torbjörn Törnkvist.

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## 2 Reference Manual

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## eldap

Erlang module

This module provides a client api to the Lightweight Directory Access Protocol (LDAP).

References:

- RFC 4510 - RFC 4519

The above publications can be found at **IETF**.

*Types*

```
handle()      Connection handle
attribute()   {Type = string(), Values=[string()]}
modify_op()   See mod_add/2, mod_delete/2, mod_replace/2
scope()       See baseObject/0, singleLevel/0, wholeSubtree/0
dereference() See neverDerefAliases/0, derefInSearching/0, derefFindingBaseObj/0, derefAlways/0
filter()      See present/1, substrings/2,
               equalityMatch/2, greaterOrEqual/2, lessOrEqual/2,
               approxMatch/2,
               'and'/1, 'or'/1, 'not'/1.
```

## Exports

**open([Host]) -> {ok, Handle} | {error, Reason}**

Types:

**Handle = handle()**

Setup a connection to an LDAP server, the HOST's are tried in order.

**open([Host], [Option]) -> {ok, Handle} | {error, Reason}**

Types:

**Handle = handle()**

**Option = {port, integer()} | {log, function()} | {timeout, integer()} | {ssl, boolean()}**

Setup a connection to an LDAP server, the HOST's are tried in order.

The log function takes three arguments, fun(Level, FormatString, [FormatArg]) end.

Timeout set the maximum time in milliseconds that each server request may take.

**close(Handle) -> ok**

Types:

**Handle = handle()**

Shutdown the connection.

**simple\_bind(Handle, Dn, Password) -> ok | {error, Reason}**

Types:

```
Handle = handle()
Dn = string()
Password = string()
```

Authenticate the connection using simple authentication.

```
add(Handle, Dn, [Attribute]) -> ok | {error, Reason}
```

Types:

```
Handle = handle()
Dn = string()
Attribute = attribute()
```

Add an entry. The entry must not exist.

```
add(Handle,
    "cn=Bill Valentine, ou=people, o=Example Org, dc=example, dc=com",
    [{"objectclass", ["person"]},
     {"cn", ["Bill Valentine"]},
     {"sn", ["Valentine"]},
     {"telephoneNumber", ["545 555 00"]}])
```

```
delete(Handle, Dn) -> ok | {error, Reason}
```

Types:

```
Dn = string()
```

Delete an entry.

```
delete(Handle, "cn=Bill Valentine, ou=people, o=Example Org, dc=example, dc=com")
```

```
mod_add(Type, [Value]) -> modify_op()
```

Types:

```
Type = string()
Value = string()
```

Create an add modification operation.

```
mod_delete(Type, [Value]) -> modify_op()
```

Types:

```
Type = string()
Value = string()
```

Create a delete modification operation.

```
mod_replace(Type, [Value]) -> modify_op()
```

Types:

```
Type = string()
```

```
Value = string()
```

Create a replace modification operation.

```
modify(Handle, Dn, [ModifyOp]) -> ok | {error, Reason}
```

Types:

```
Dn = string()
ModifyOp = modify_op()
```

Modify an entry.

```
modify(Handle, "cn=Bill Valentine, ou=people, o=Example Org, dc=example, dc=com",
  [eldap:mod_replace("telephoneNumber", ["555 555 00"]),
   eldap:mod_add("description", ["LDAP Hacker"]) ])
```

```
modify_dn(Handle, Dn, NewRDN, DeleteOldRDN, NewSupDN) -> ok | {error, Reason}
```

Types:

```
Dn = string()
NewRDN = string()
DeleteOldRDN = boolean()
NewSupDN = string()
```

Modify the DN of an entry. DeleteOldRDN indicates whether the current RDN should be removed after operation. NewSupDN should be "" if the RDN should not be moved or the new parent which the RDN will be moved to.

```
modify_dn(Handle, "cn=Bill Valentine, ou=people, o=Example Org, dc=example, dc=com ",
  "cn=Bill Jr Valentine", true, "")
```

```
search(Handle, SearchOptions) -> {ok, #eldap_search_result{}} | {error, Reason}
```

Types:

```
SearchOptions = #eldap_search{} | [SearchOption]
SearchOption = {base, string()} | {filter, filter()} | {scope, scope()}
| {attributes, [string()]} | {deref, dereference()} | | {types_only,
boolean()} | {timeout, integer()}
```

Search the directory with the supplied the SearchOptions. The base and filter options must be supplied. Default values: scope is wholeSubtree(), deref is derefAlways(), types\_only is false and timeout is 0 (meaning infinity).

```
Filter = eldap:substrings("cn", [{any,"V"}]),
search(Handle, [{base, "dc=example, dc=com"}, {filter, Filter}, {attributes, ["cn"]}]),
```

```
baseObject() -> scope()
```

Search baseobject only.

**singleLevel()** -> **scope()**

Search the specified level only, i.e. do not recurse.

**wholeSubtree()** -> **scope()**

Search the entire subtree.

**neverDerefAliases()** -> **dereference()**

Never dereference aliases, treat aliases as entries.

**derefAlways()** -> **dereference()**

Always dereference aliases.

**derefInSearching()** -> **dereference()**

Dereference aliases only when searching.

**derefFindingBaseObj()** -> **dereference()**

Dereference aliases only in finding the base.

**present(Type)** -> **filter()**

Types:

**Type** = **string()**

Create a filter which filters on attribute type presence.

**substrings(Type, [SubString])** -> **filter()**

Types:

**Type** = **string()**

**SubString** = {**StringPart**, **string()**}

**StringPart** = **initial** | **any** | **final**

Create a filter which filters on substrings.

**equalityMatch(Type, Value)** -> **filter()**

Types:

**Type** = **string()**

**Value** = **string()**

Create an equality filter.

**greaterOrEqual(Type, Value)** -> **filter()**

Types:

**Type** = **string()**

**Value** = **string()**

Create a greater or equal filter.



**lessOrEqual(Type, Value) -> filter()**

Types:

**Type = string()**

**Value = string()**

Create a less or equal filter.

**approxMatch(Type, Value) -> filter()**

Types:

**Type = string()**

**Value = string()**

Create a approximation match filter.

**'and'([Filter]) -> filter()**

Types:

**Filter = filter()**

Creates a filter where all Filter must be true.

**'or'([Filter]) -> filter()**

Types:

**Filter = filter()**

Create a filter where at least one of the Filter must be true.

**'not'(Filter) -> filter()**

Types:

**Filter = filter()**

Negate a filter.